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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/695,816 | 10/24/2000 | Ernest F. Hasselbrink, Jr. | SD-8298 | 4265 |

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EXAMINER

THOMPSON, JEWEL VERGIE

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2855

DATE MAILED: 04/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/695,816

Applicant(s)

HASSELBRINK, JR. ET AL.

Examiner

Jewel V Thompson

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 5-11, 14, 15, 18-20 and 22-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 12, 13, 16, 17, 21 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. Acknowledgement is made of the Information Disclosure Statement filed October 24, 2000, which has been made of record and placed in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 teaches, "...force is pressure or voltage". It is unclear as to how the "force is pressure" and "force is voltage"

Claim 21 teaches "...shaped by the method of claim 16". There is no method claimed in claim 16.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 12, 16, 17, 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhargava et al (5,665,568).

Claims are rejected under 35 U.S.C. 102(b) as being anticipated by **Regarding claims 1 and 25**, Bhargava et al teaches the aspects of the claimed invention, a device for controlling fluid flow in a tube, comprising: a mobile monolithic polymer element (7 and col. 5, lines 3-6), which can be made using any desirable method, disposed in the tube (9); and means for providing a displacing force to control the movement of the polymer element in the tube (col. 3, lines 32-37). Bhargava et al neglects to teach that the tube is a microchannel, however, it would have been obvious to have provided the same results as in the tube of Bhargava et al for the purpose of controlling the flow of the fluid.

Regarding claim 2, Bhargava et al teaches the displacing force is pressure (col. 3, lines 32-27)

Regarding claim 3, Bhargava et al teaches spaced apart retaining means (8) disposed within the microchannel (figs. 1 and 2).

Regarding claim 4, Bhargava et al neglects to explicitly teach that the retaining means comprises a sealing surface, however, in fig. 1 it is shown that the retaining means (8) closes off (or seals) the float in such a way the float cannot move any further down the tube. It would have been obvious to one skilled in the art at the time that the invention was made to have been aware that the retaining means (8) could be used in the regulating device of Bhargava et al for the purpose of preventing the float from dropping down to the bottom plug of the case, therefore being used as a sealing.

Regarding claim 12, Bhargava et al teaches a first (2) and second (9) capillary joined together coaxially (fig. 1), wherein the first capillary has a larger diameter than the second capillary (fig. 1); and the mobile monolithic polymer element disposed in the first capillary (Fig. 1)

Regarding claim 16, Bhargava et al teaches a first (2) and a second (4) intersecting tubes (fig. 1), wherein the first tube includes two spaced apart retaining means (8); a mobile polymer element (7) disposed in the first tubes (fig. 1) and moveable between the retaining means to block fluid flow through the second tubes (fig. 1).

Regarding claims 17 and 21, Bhargava et al teaches a plurality of tubes (4 and 5) converging at a common intersection (fig. 1), wherein at least one of the plurality is a

fluid inlet (4), and wherein the common intersection includes spaced apart retaining means (8) and a mobile polymer moveable between the retaining means to block fluid flow into one or more of the plurality of tubes (fig. 1)

Claim Rejections - 35 USC § 103

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bhargava et al in view of Furber et al (5,986,554).

Regarding claim 13, Bhargava et al neglects to teach that the polymer element consists of a first and second coaxial segments, and wherein the second has a diameter adapted to fit within the second capillary. Furber et al teaches a float which has a first and second segment and the second segment is adapted to fit into the second capillary (fig. 1). It would have been obvious to one skilled in the art at the time that the invention was made to have used the float of Furber et al in the regulating device of Bhargava et al for the purpose of indicating an empty position

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5,019,678 Templeton et al teaches a fluid switch which includes a movable shuttle enclosed within a bore

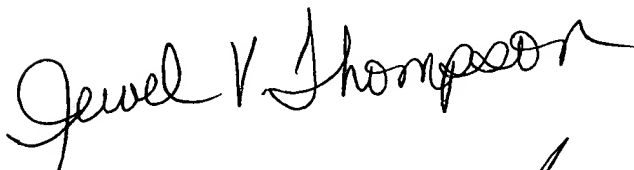
4,630,486 Miles et al teaches a flow meter having a float freely movable along the bore

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jewel V Thompson whose telephone number is 703-308-6726. The examiner can normally be reached on 7-4:30, off alternate Mondays.

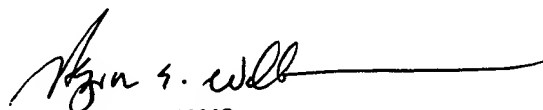
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 703-305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3432 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1134.



jvt

March 14, 2003



HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800